

REMARKS

In view of the foregoing amendments and the following remarks, reconsideration, re-examination, and allowance of the present application is respectfully requested.

Original Claims 1-2 and new claims 3-8 are pending in the application.

Objection to the Drawings and Specification

Page 2 of the Office Action set forth an objection to the drawings as not including a "Prior Art" legend for Figures 3 and 4a-4c. Accordingly, "Prior Art" markings have been added to Figures 3 and 4a to 4c.

Page 2 of the Office Action set forth an objection to the specification based on various typographical errors. The specification has been amended to address these matters. Accordingly, withdrawal of the objections to the specification and drawings is respectfully requested

Prior Art Rejections

Claim 1 stands rejected under 35 U.S.C. §102(b) as allegedly being anticipated by laid-open Japanese patent application JP 409119177A to Onishi et al. (Onishi '177). Applicants respectfully request reconsideration and withdrawal of this rejection for at least the following reasons.

The sound deadening board according to Claim 1 comprises a layer of structural skin and a layer of sound deadening material. The sound deadening material has an equivalent Young's modulus between 50 and 600 psi and is attached to the layer of structural skin.

Sound-deadening material with a Young's modulus of between 50 and 600 psi has been found to provide broadband improvements in the 1600 Hz one-third octave range, as set forth at page 5 of the specification.

The sound absorbing material of Onishi '177 has two sheets of porous material, with the sheets having different Young's moduli designated as A and B. The Office Action points to the material 1 in Figure 1 of Onishi '177 as corresponding to the layer of structural skin of Claim 1, and to the material 2 in Figure 1 of Onishi '177 as corresponding to the claimed layer of sound-deadening material. However, a closer examination of Onishi '177 reveals that the Onishi '177 material is very different than that in the present invention. Indeed, there does not appear to be any disclosure in Onishi '177 of a material having an equivalent Young's modulus in the claimed range of 50 – 600 psi, as set forth in Claim 1.

Specifically, Onishi '177 discloses an acoustic material with a first layer of rock wool acoustic tile with a Young's modulus of $7 \times 10^6 \text{ N/m}^2$ (1675 psi) and a density of 400 kg/m^3 (approx 25 lb/ft^3). A second layer is rock wool fiber having a Young's modulus of $3 \times 10^3 \text{ N/m}^2$ (0.5 psi) and a density of 24 kg/m^3 (approx 1.6 lb/ft^3).

For example, the acoustic material in Figure 6 includes a rock wool acoustic tile layer 14 and a rock wool fiber layer 13. The acoustic material in Onishi '177 Figure 7 includes a layer of rock wool acoustic tile 16 and a layer of rock wool fiber 15, with a transparent film 17 arranged on the outer face of the rock wool acoustic tile 16. The transparent film 17 holds a layer of fine particles in place and is intended to increase the absorptivity in a low frequency range. For each of these examples, the overall material in Onishi '177 has a Young's modulus of $10^6 \text{ N/m}^2 - 10^8 \text{ N/m}^2$ (145 to 14500 psi) and a density of $200\text{-}500 \text{ kg/m}^3$ (corresponding to $12\text{-}18 \text{ lb/ft}^3$).

Because the Onishi '177 rock wool fiber layer has a Young's modulus of 0.5 psi, this layer cannot be considered to correspond to the claimed sound-deadening material having an equivalent Young's modulus of 50 – 600 psi. Nor can the rock wool acoustic tile layer, with

a Young's modulus of 1675 psi, be considered to correspond to the claimed sound-deadening material.

Although Onishi '177 indicates that a very broad range of Young's moduli (10^3 N/m^2 – 10^6 N/m^2 ; 10^6 N/m^2 – 10^8 N/m^2) can potentially be used for these layers, Onishi '177 does not disclose a material with an equivalent Young's modulus of between 50 and 600 psi. Each of the examples in Onishi '177 each use materials well outside of the claimed range of Young's modulus.

To establish anticipation, each and every element of a claimed process must be disclosed in a single reference. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 231 USPQ 81, 90 (Fed. Cir. 1986); *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 USPQ 303, 313 (Fed. Cir. 1981). Moreover, the prior art reference must be enabling so that the allegedly disclosed matter is placed in the public's possession. *In re Brown*, 141 USPQ 245, 249 (CCPA 1964). The reference must describe the subject matter of invention with sufficient clarity and detail to establish that the subject matter existed and that its existence was recognized by persons of ordinary skill in field of the invention. *ATD Corp. V. Lydall, Inc.*, 159 F.3d 534, 545 (Fed. Cir. 1998.).

For the reasons set forth above, the disclosure of Onishi '177 is insufficient to establish that the combination sound-deadening board having all of the features set forth in Claim 1 existed and that its existence was recognized by those of ordinary skill in the relevant art. Accordingly, Onishi '177 cannot anticipate the combination sound-deadening board of Claim 1, and withdrawal of the rejection of Claim 1 is respectfully requested.

Independent Claim 2 stands rejected as being obvious under 35 U.S.C. 103(a) based on of laid-open Japanese patent application document JP 409111909 to Onishi et al. (Onishi '909) in view of Onishi '177 for the reasons set forth at page 4 of the Office Action. For at least the following reasons, withdrawal of this rejection is respectfully requested.

Claim 2 is directed to a building component assembly comprising at least one assembly framing member and at least one combination sound-deadening board. The combination sound-deadening board is a single laminate structure comprising a structural skin layer attached to a sound-deadening material, the sound-deadening material having an equivalent Young's Modulus between 50 and 600 psi. The at least one combination sound-deadening board is attached to the assembly framing member such that the sound-deadening material faces the assembly framing member.

The Office Action points to the porous surface board 1 of Onishi '909 as corresponding to the claimed skin layer, and to the sheet-like substance 2 of Onishi '909 as corresponding to the claimed sound-deadening material. The Office Action acknowledges that Onishi '909 does not disclose a sound-deadening material having an equivalent Young's modulus of between 50 and 600 psi, but asserts that one of ordinary skill in the art would replace the sheet-like substance 2 of Onishi '909 with the porous material 2 of Onishi '177.

However, as explained in the earlier paragraphs addressing Claim 1, the porous material 2 in Onishi '177 is a rock wool fiber layer with a Young's modulus of 0.5 psi. Accordingly, even if one were to replace the sheet-like substance 2 of Onishi '909 with the 0.5 psi Young's modulus rock wool fiber layer of Onishi '177, the resulting material would

still not have a sound-deadening layer having an equivalent Young's modulus of between about 50 and 600 psi.

With respect to the assertion that one would be motivated to replace the sheet-like substance 2 of Onishi '909 with the 0.5 psi Young's modulus rock wool fiber layer of Onishi '177 in order to provide "a high sound absorbing material in a low frequency area even with a thin thickness of the material", Onishi '909 indicates that the sheet-like substance 2 with the transparent film and the fine particles produces low frequency sound absorption. It is not clear that the rock wool fiber layer 2 of Onishi '177 would have this effect. Further, replacing the sheet-like substance 2 of Onishi '909 with the thicker rock wool fiber layer 2 of Onishi '177 would make the Onishi '909 material thicker, rather than thinner as is suggested by the Office Action. Thus, one of ordinary skill in the art would not replace the sheet like substance 2 of Onishi '909 with the rock wool layer on Onishi '177 for the reasons set forth in the Office Action.

To establish a prima facie case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The motivation to modify the prior art references must flow from some teaching in the art that suggests the desirability or incentive to make the modifications needed to arrive at the claimed invention. In re Napier, 55 F.2d 610, 613; 34 U.S. P.Q. 2d 1782, 1784 (Fed. Cir. 1995).

As discussed above, neither Onishi '909 nor Onishi '177 provide any motivation or suggestion to combine these references in the manner suggested by the Office Action. Further, and as mentioned above, rock wool fiber layer of Onishi '177 has an equivalent Young's modulus of 0.5 psi, which is well outside of the claimed range of 50-600 psi for the claimed sound deadening board. Accordingly, even the hypothetical combination of Onishi '909 and Onishi '177 would not have the features set forth in Claim 1.

For at least the foregoing reasons, it is respectfully submitted that a *prima facie* case of obviousness of Claim 2 has not been established, and withdrawal of the rejection of Claim 2 is respectfully requested.

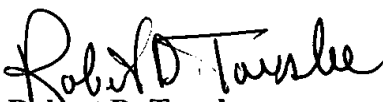
New Claims

New Claims 3-6 are provided to claim additional patentable subject matter to which the applicants are believed to be entitled. New claims 3-6 are believed to be allowable for at least the same reasons that Claims 1-4 are allowable. Further, additional patentable features are set forth which are not found in the cited references. For example, Claims 3 and 5 recite that the sound-deadening material has a weight density of less than about 14 pounds per cubic foot. Claims 4 and 6 recite that the sound deadening material has a weight density between about 9 and about 14 pounds per cubic foot. Neither Onishi '177 nor Onishi '909 disclose or suggest a sound deadening layer with this combination of features. Accordingly, Claims 3-6 are allowable over the cited documents.

Conclusion

Further and favorable action in the form of a Notice of Allowance is believed to be next in order and such action is respectfully requested. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at the below listed telephone number.

Respectfully submitted,

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